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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
09/010,822	01/22/98	KNOWLTON	G	3756-399

020583
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PM82/0120

EXAMINER	
MILLER, E	
ART UNIT	**PAPER NUMBER**
3641	7

DATE MAILED: 01/20/00

Pleas find below and/or attached an Office communication concerning this application or pr ceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/010,822	Knowlton et al.
Examiner	**Group Art Unit**
Edward Miller	3641

☒ Responsive to communication(s) filed on *Jul 15, 1999*

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1, 2, and 4-29* is/are pending in the applicat

Of the above, claim(s) *2, 4-12, and 19-24* is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1, 13-18, and 25-29* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

1. The text of those sections of Title 35, U. S. Code, not included herein can be found in a prior Office action.

2. Claims 1, 13-18 and 26-29 are rejected under 35 U.S.C. 103 as being unpatentable over Sammons et al. in view of Sidebottom, Garner '253, Healy and Ellern et al.

Sammons et al. teach a composition which includes a metal fuel, col. 5, lines 54-64, e.g., including molybdenum at about line 61. Further, the composition includes a polymer binder which is solid when cured, which includes amine groups and therefore is a solid organic amine, conveniently note claim 10. The oxidizers are taught at col. 6, lines 14-44, with silver perchlorate as a Group IB metal perchlorate at lines 31-32, and reciting nitrates if IB metals at lines 36-37. This clearly teaches or at least suggests silver nitrate. The additives that may be employed include guanidine nitrate at col. 7, line 70. In view of Sidebottom, Garner '253, and Healy, it would have been clearly obvious to use silver nitrate as the oxidizer. Ellern, pages 296-300, and particularly Table 31 on page 299 teaches regarding the melting and decomposition temperature temperatures of silver nitrate, and discusses the reaction of solid fuels with solid oxidizers as related to the melting temperature. This would seem to suggest the relatively low decomposition or autoignition (spontaneous ignition) temperature of such compositions. Further, as to the claim 18 fuel rich requirement, this would seem to be suggested by the teaching of varying the metal, including molybdenum, fuel content from 0.2 to 32% by weight. Since the specific ingredients are taught or clearly suggested, this would seem to suggest that the functional requirements are met, or this supports the proposition that the claims are unduly broad and indefinite. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinarily skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

3. Claims 1, 13-16, and 25-29 are rejected under 35 U.S.C. 103 as being unpaten-

table over Halliday et al. in view of Tepper and Ellern.

Halliday et al. teach an invention which comprises aluminum metal fuel, col. 1, lines 37-40, together with an oxidizer of nitrates which have a low melting point, col. 2, lines 19-43. These may include silver nitrate, line 41. Further, guanidine nitrate and other amines are taught at col. 2, lines 60-64, e.g. In view of Tepper, col. 1, lines 43-48, substitution of a similar metal fuel, taught for use with eutectic or peritectic oxidizer salt compositions, would have been obvious. Ellern further teaches specific low melting salt mixtures in "Table 19", page 271, which include silver, e.g., at 20 Li, 61 NH4, and 36.5 Ag (at 52 degrees C.) and the next several lines. Substitution of such a low melting ammonium nitrate/silver nitrate mixture for the ammonium nitrate low melting mixture of Halliday et al., which may include silver and other nitrates, would have been obvious to one of ordinary skill in the art. See the case law supra.

4. Claims 1, 13-18 and 25-29 are rejected under 35 U.S.C. 112, first and second paragraphs, because the claimed invention is not described in such full, clear, concise and exact terms as to enable any person skilled in the art to make and use the same, and/or for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are unduly broad and indefinite. While there is a functional limitation of a certain temperature of autoignition, there is inadequate specifics, particularly with relationship to broad claim 1, as to the ingredients and amounts employed to effect such functional result. It is deemed that the determination thereof, particularly with respect to claim 1 would require undue experimentation to determine the meets and bounds of the invention. The specification is objected to therefore, and the claims lack adequate support in this regard.

It is noted that applicants recite that solid organic amines are oxidizers throughout

the claims and specification. This is simply incorrect. Note Khandhadia, col. 2, line 65-col. 3, line 10; Poole '757, col. 4, lines 14-18 and 32-33; and Hock et al., col. 2, lines 58-66. It is perfectly clear that a fuel (organic amine, specifically tetrazole or aminotetrazole) is combusted by the oxidizer; it does not form any part of the oxidizer. Thus, applicants' specification and claims are defective in this regard. Further, a single example or alleged amine oxidizer, particularly in view of the error of such recitation, does not form an adequate basis for an entire genus of alleged amine oxidizers. It is apparent that the species that is disclosed has zero oxygen therein, and this also does not support the allegation. These are exemplary.

5. Claims 1, 13-16 and 26-29 are rejected under 35 U.S.C. 103 as being unpatentable over Poole et al. '380 in view of Ferrando et al., Katzakian et al., Halliday et al. and Yabsley et al.

Substitution of low melting oxidizer ingredients, including silver nitrate, of the secondary references for the nitrates/nitrites in the composition of Poole et al. '380, as at col. 2, lines 61-63, with metal as at col. 3, lines 41-50, would have been obvious to one of ordinary skill in the art to produce an autoignition composition as taught by Poole et al. '380. The HNTO of Poole et al. is a solid organic amine as claimed in instant claim 1, line 11. As to the secondary references, Yabsley et al. teach low melting oxidizers which include nitrates including ammonium nitrate, at col. 2, lines 23-25, with silver nitrate, col. 2, line 44, also in claim 8 line 4 and claim 9 for eutectic compositions. Ferrando et al. teach the efficacy of silver nitrate oxidizer with metallic fuels at col. 3, lines 12-19 and col. 4, lines 25-31 for pyrophoric reaction as expected by one of ordinary skill in the art. Katzakian et al., although not to silver nitrate specifically, teach other nitrate additives for eutectic oxidizers at col. 5, lines 15-18, col. 7, lines 61-63 and col. 8, lines 25-30. In Halliday et al., ammonium nitrate is

taught with silver nitrate, col. 2, line 41, and further guanidine nitrate, col. 2, line 61. These are taught for use with aluminum metal fuel specifically, col. 1, line 37. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinarily skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

6. Claims 1, 13-15 and 26-29 are rejected under 35 U.S.C. 103 as being unpatentable over Halliday et al.

Halliday et al. teach a composition with aluminum metal fuel, mixed with a low melting oxidizer containing ammonium nitrate and additional oxidizers including silver nitrate, col. 2, line 41., as well as organic nitrates, col. 2, lines 62-68. These are to be in the form of mixtures which are low melting. As to these claims which include aluminum metal fuel, variation of specific ingredients and amounts would have been obvious to one of ordinary skill in the art. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinarily skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

That applicants propose a different utility for the composition does not lend patentability to the same composition for a different use. It is clear that a new intended use does not confer patentability on an otherwise old composition. See, for example, *In re Thuau*, 135 F.2d 344, 1943 C.D. 390, *In re Pearson*, 181 USPQ 641, and *In re Touminen*, 213 USPQ 89.

7. Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP 706.07(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED

STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

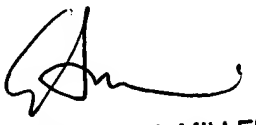
8. Any inquiry concerning either this or an earlier communication from the Examiner should be directed to Examiner Edward A. Miller at (703) 306-4163.

Examiner Miller may normally be reached daily, except alternate Fridays, from 8:30 AM to 6 PM.

If attempts to reach Examiner Miller by telephone are unsuccessful, his supervisor, Mr. Jordan, can be reached at (703) 306-4159. The Group fax number is (703) 305-7687.

If there is no answer, or for any inquiry of a general nature or relating to the application status, please call the Group receptionist at (703) 308-1113.

Miller/em
January 19, 2000



EDWARD A. MILLER
PRIMARY EXAMINER